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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/710,058	11/10/2000	David Anderson	A-68531-1/RMS/JJD/SPL	4112
24353	7590	02/17/2005	EXAMINER	
BOZICEVIC, FIELD & FRANCIS LLP 1900 UNIVERSITY AVENUE SUITE 200 EAST PALO ALTO, CA 94303			CELSA, BENNETT M	
			ART UNIT	PAPER NUMBER
			1639	

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/710,058

Applicant(s)

ANDERSON ET AL.

Examiner

Bennett Celsa

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/10/04 has been entered.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Status of the Claims***

Claims 1-3 and 20 are currently pending and under consideration.

### ***Election/Restriction***

3. Applicant's election without traverse of Group I (claims 1-9) and the species rGFP and in Seq. Id. 1 in Paper No.10 is again acknowledged.

### ***Withdrawn Objection (s) and/or Rejection (s)***

The rejection of claims 1-3, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aran et al. Cancer Gene Therapy, Vol. 5, No. 4 pages 195-206 (1998) and Bryan et al. US Pat. No. 6,232,107 (5/01: filed 10/98 or earlier) with attached Result 4 DATABASE Alignment search is hereby withdrawn. This rejection is cumulative in light of the obviousness rejection of Bryan et al. AND Aran et al. already of record (signifying that the references could be interpreted in any order). .

***Outstanding Objection (s) and/or Rejection (s)***

***Claim Rejections - 35 USC 103***

4. Claims 1- 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bryan et al. US Pat. No. 6,232,107 (5/01: filed 10/98 or earlier) with attached Result 4 DATABASE Alignment search and Aran et al. Cancer Gene Therapy, Vol. 5, No. 4 pages 195-206 (1998).

The presently claimed invention is directed to:

Claim 1: A retroviral vector “for use in a mammalian cell” comprising a polynucleotide (e.g. cDNA) encoding a green fluorescent protein (GFP) having the amino acid sequence of SEQ ID 2 (e.g. (sea pansy) wild-type *Renilla Mullerie* GFP).

Claim 2: The retroviral vector further comprises “a first encoding polynucleotide” and an “IRES site”.

Claim 3: A “Cell” comprising a retroviral vector according to claim 1 or 2.

Claim 20: the use of “human codon-optimized nucleic acid encoding a Renilla GFP.

Initially it is noted that intended use language (e.g. “for use in a **mammalian** cell”) , with respect to claims 1-3, with regard to cell type is not afforded patentable weight since:

- a. Intended use language of compound/composition claims are normally not afforded patentable weight;
- b. The specification encompasses both prokaryotic and eukaryotic host cells;
- c. Doctrine of claim differentiation. Claim 3 broadly encompasses any cell type. Limiting claim 1 to mammalian cells would make claim 3 fail to further limit the scope of claim 1 and would be objectionable thereon.

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However, with regard to claim 20, patentable weight is being afforded “for use in mammalian cell” in light of the use of “human codon-optimized nucleic acid encoding a Renilla GFP”; such codon-optimization being directed toward increasing expression in mammalian (e.g. human) cells.

Bryan et al. disclose and claim the use (e.g. diagnostics and high throughput screening e.g. libraries) of nucleic acid molecules encoding green fluorescent proteins (e.g. bioluminescent) from the genus *Renilla*, including nucleotide reference Seq. ID No. 15 which is 98.4% (with best local similarity of 99.4%) homologous to elected seq. ID 1; differing by only one nucleotide (C vs. G). Bryan further teaches protein Seq. Id. No. 16 which corresponds (e.g. has 100% sequence identity) to “wild type” *Renilla* GFP of Seq. Id. 2, as presently claimed [Compare . Reference Seq. Id 15 and attached Result 4 DATABASE Alignment search and Reference sequence Id. 16].

Bryan et al. further teach host cells (e.g. present claims 1 and 3) including prokaryotic/eukaryotic (e.g. mammalian) which incorporate genetic constructs comprising a polynucleotide (e.g. cDNA) encoding a green fluorescent protein (GFP) having the amino acid sequence of SEQ ID 2 (e.g. (sea pansy) wild-type *Renilla Mullerie* GFP) as well as the use of “human codon-optimized nucleic acid encoding a *Renilla* GFP” as in present claim 20 (e.g. “The genes can be modified by substitution of codons optimized for expression in selected host cells or hosts, such as humans and other mammals ...” . See col. 5). The reference further teaches the use of a fusion partner (e.g. a targeting agent as a first gene) in its genetic fusion constructs as in present claims 2 and 3. See e.g. col. 8; col. 11-15; col. 24. Additionally, Bryan et al.

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teach the use of the bioluminescent green fluorescent proteins in cellular assays (e.g. live cells, including mammalian) and in high throughput screening systems (e.g. employing libraries) (e.g. see col. 2-3; 14).

It is important to note that the Bryan et al. reference, although teaching both (jellyfish) wild-type *Aequorea Victoria* GFP and (sea pansy) wild-type *Renilla Mullerie* GFP; the use of *Renilla* is strongly preferred due to the analytical problems present in the former. Particularly, *Aequorea* GFP possess two separate excitation peaks, whereas *Renilla* GFP has one excitation peak making it not ideal for use in analytical and diagnostic purposes:

"Consequently, (jellyfish) GFP mutants have been selected with the hope of **identifying mutants** that have *single excitation spectral peaks* shifted to the red (emphasis provided). In fact **a stated purpose in constructing such mutants has been to attempt to make *A. Victoria* GFP more like the GFP from *Renilla***, which has thus far not been cloned, but which has properties that make it far more ideal for use as an analytical tool. For many practical applications, the spectrum of *Renilla* GFP would be preferable to that of the *Aequorea* GFP, because *wavelength discrimination* between different fluorophores and detection of resonance energy transfer are easier if the component spectra are tall and narrow rather than low and broad". (emphasis provided)

See '107 col. 3-5; col. 47-48.

The Bryan et al. reference differs, if at all, from the presently claimed invention (e.g. see claims 1, 3 and 20) in failing to *explicitly teach* the use of a retrovirus as a vector.

However, in this regard, the Bryan et al. reference teaches that a wide variety of multipurpose vectors suitable for the expression of heterologous proteins are known to those of skill in the art and are commercially available; with selection and use of such

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vehicles as being well within the skill of the artisan. In this regard, the Bryan et al. vectors for use in mammalian hosts include “**recombinant virus**”, as well as plasmid and phages e.g. the use of “**retroviral** long-terminal repeats and inducible promoters from other eukaryotic expression systems”.. See e.g. col. 23 (especially bottom ) to col. 24; col. 59-60 (emphasis provided). Accordingly, the Bryan et al. reference taken alone provides motivation to select the use of retroviral vectors, especially for use in mammalian host cells.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to select a retroviral vector for use in a cellular host (e.g. procaryotic or mammalian) with use of a genetic construct comprising a polynucleotide (e.g. cDNA) encoding a wild-type Renilla green fluorescent protein (GFP) or a fusion thereof with a reasonable expectation of success in light of the reference's ability to express Renilla GFP and in view of the benefits of using Renilla GFP (e.g. as compared to *A. Victoria* GFP).

To the extent that further motivation to select a retroviral vector is needed and to the extent that Bryan et al. fails to teach the incorporation of an IRES site (e.g. in present claim 2) in its fusion constructs, the Aran et al. reference is cited.

The Aran et al. reference teaches the favorable use of retroviral vectors, both in vitro and in vivo including an internal ribosome entry site (IRES) for fusion constructs preferably comprising optimized, humanized (e.g. see page 204, left column for benefits of humanizing) GFP (e.g. *Aequorea victoria*) ; since “[T]his vector allows rapid and

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specific identification of the expressed protein (e.g. MDR1 gene transfer) in living cells (e.g. mammalian cells) “ (E.g. see Abstract and page 195, especially right column).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time of applicants invention to utilize a retroviral vector as the Bryan et al. “recombinant virus” vector with the use of an IRES for expressing humanized or non-humanized wild-type renilla GFP in the Bryan et al. reference in order to appreciate the benefits thereof ; e.g. rapid and specific identification of the expressed protein.

5. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over the obviousness rejections using Aran et al. And Bryan et al. as applied to claims 1-3 and 20 above, and, if necessary, further in view of Zolutukhin et al. US Pat. No. 5,874,304 (2/99: filed 1/96).

The above combined teaching of the Aran et al. and Bryan et al. References as described in the above obviousness rejection is hereby incorporated by reference in their entirety.

The combined reference teaching differs, if at all, from the presently claimed invention (e.g. claim 20) by failing to *explicitly* teach a human codon-optimized nucleic acid encoding a Renilla GFP (e.g. humanized GFP) in a retroviral vector.

However, Zolutukhin et al. teach that utilizing human codon-optimized nucleic acid GFP in nucleic acid constructs (including fusion proteins; e.g. col. 4 corresponding to present claim 2 “first gene” terminology) serves to overcome prior art obstacles and is advantageous (e.g. improved expression in mammalian and human cells). These constructs are included in vectors (e.g. see col. 5, examples; particularly retroviral: see



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patent claims, especially claims 50 and 69 ) contained in cells (e.g. see patent claims 71-80) in which the constructs contain:

1. GFP (particularly Renilla: see col. 1 , last paragraph; col. 14 and Table 1; and especially col. 16, lines 3-15: A... spectrum of Renilla ... preferable to that of Aequorea);

2. IRES elements (e.g. see col. 13; particularly patent claims 50 and 62).

See see col. 1-2).

Accordingly, one of ordinary skill in the art at the time of applicant's invention would have been motivated to utilize human codon-optimized nucleic acids expressing Renilla GFP in the genetic constructs (e.g. cells/vectors comprising renilla GFP/IRES elements) rendered obvious by the combined Aran et al. And Bryan et al. teaching in light of the advantages thereof imparted by such humanized sequences as taught by the Zolutukhin et al. reference.

Thus, it would have been prima facie obvious to one of ordinary skill at the time of applicant's invention to modify the cellular/vector genetic constructs taught by the Aran and Bryant reference to include human codon-optimized (e.g. humanized ) nucleotides encoding renilla GFP in order to obtain the advantages thereof as taught by the Zolutukhin et al. reference.

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6. Claims 1-3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zolutukhin et al. US Pat. No. 5,874,304 (2/99: filed 1/96) and Bryan et al. US Pat. No. 6,232,107 (5/01: filed 10/98 or earlier) with attached Result 4 DATABASE Alignment search.

The presently claimed invention is directed to:

Claim 1: A retroviral vector “for use in a mammalian cell” comprising a polynucleotide (e.g. cDNA) encoding a green fluorescent protein (GFP) having the amino acid sequence of SEQ ID 2 (e.g. (sea pansy) wild-type *Renilla Mullerie* GFP).

Claim 2: The retroviral vector further comprises “a first encoding polynucleotide” and an “IRES site” .

Claim 3: A “Cell” comprising a retroviral vector according to claim 1 or 2.

Claim 20: the use of “human codon-optimized nucleic acid encoding a Renilla GFP.

Initially it is noted that intended use language (e.g. “for use in a **mammalian** cell”) , with respect to claims 1-3, with regard to cell type is not afforded patentable weight since:

- a. Intended use language of compound/composition claims are normally not afforded patentable weight;
- b. The specification encompasses both prokaryotic and eukaryotic host cells;
- c. Doctrine of claim differentiation. Claim 3 broadly encompasses any cell type. Limiting claim 1 to mammalian cells would make claim 3 fail to further limit the scope of claim 1 and would be objectionable thereon.

However, with regard to claim 20, patentable weight is being afforded “for use in mammalian cell” in light of the use of “human codon-optimized nucleic acid encoding a Renilla GFP”; such

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codon-optimization being directed toward increasing expression in mammalian (e.g. human cells).

The Zolutukhin et al. reference teaches that utilizing human codon-optimized nucleic acid GFP in nucleic acid constructs (including fusion proteins; e.g. col. 4 corresponding to present claim 2 “first gene” terminology) serves to overcome prior art obstacles and is advantageous (e.g. improved expression in mammalian and human cells). These constructs are included in vectors (e.g. see col. 5, examples; particularly retroviral: see patent claims, especially claims 50 and 69) contained in cells (e.g. see patent claims 71-80) in which the constructs contain:

1. GFP (particularly Renilla: see col. 1, last paragraph; col. 14 and Table 1; and especially col. 16, lines 3-15: A... spectrum of Renilla ... preferable to that of Aequorea);
2. IRES elements (e.g. see col. 13; particularly patent claims 50 and 62.  
(e.g. see col. 1-2).

It is noteworthy that Zolutukhin teaches that (sea pansy) Renilla GFP is more preferable as a reporter than Aequorea GFP since Aequorea has two absorbance peaks whereas Renilla GFP has a single absorbance peak at 498 accordingly: For many practical applications, the spectrum of Renilla GFP would be preferable to that of Aequorea because wavelength discrimination between different fluorophores and detection of resonance energy transfer are easier when the component spectra are tall and narrow rather than low and broad.” Accordingly, Zolutukhin (like the Bryan reference) teaches mutation of Aequorea toward obtaining a single peak (e.g. like Renilla) is desired. See Zolutukhin at col. 16.

Although the Zolutukhin et al. reference teaches nucleic acid which employ the preferential use of Renilla GFP, the Zolutukhin reference differs from the presently claimed invention by failing to explicitly teach the use of a *Renilla* GFP gene sequence which encodes wild type Renilla GFP corresponding to SEQ Id. 2.

Bryan et al. disclose and claim the use (e.g. diagnostics and high throughput screening e.g. libraries) of nucleic acid molecules encoding green fluorescent proteins (e.g. bioluminescent) from the genus *Renilla*, including nucleotide reference Seq. ID No. 15 which is 98.4% (with best local similarity of 99.4%) homologous to elected seq. ID 1; differing by only one nucleotide (C vs. G). Bryan further teaches protein Seq. Id. No. 16 which corresponds (e.g. has 100% sequence identity) to "wild type" Renilla GFP of Seq. Id. 2, as presently claimed [Compare . Reference Seq. Id 15 and attached Result 4 DATABASE Alignment search and Reference sequence Id. 16].

Bryan et al. further teach host cells (e.g. present claims 1 and 3) including prokaryotic/eukaryotic (e.g. mammalian) which incorporate genetic constructs comprising a polynucleotide (e.g. cDNA) encoding a green fluorescent protein (GFP) having the amino acid sequence of SEQ ID 2 (e.g. (sea pansy) wild-type *Renilla Mullerie* GFP) as well as the use of "human codon-optimized nucleic acid encoding a Renilla GFP" as in present claim 20 (e.g. "The genes can be modified by substitution of codons optimized for expression in selected host cells or hosts, such as humans and other mammals ..." . See col. 5). The reference further teaches the use of a fusion partner (e.g. a targeting agent as a first gene) in its genetic fusion constructs as in present claims 2 and 3. See e.g. col. 8; col. 11-15; col. 24.

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Bryan et al. teach the use of the bioluminescent green fluorescent proteins in cellular assays (e.g. live cells, including mammalian) and in high throughput screening systems (e.g. employing libraries) (e.g. see col. 2-3; 14).

It is important to note that the Bryan et al. reference, **like the Zolutukhin et al. reference**, although teaching both (jellyfish) *Aequorea Victoria* GFP and (sea pansy) wild-type *Renilla Mullerie* GFP; teach that the use of *Renilla* is strongly preferred due to the analytical problems present in the former. Particularly, *Aequorea* GFP possess two separate excitation peaks, whereas *Renilla* GFP has one excitation peak making it not ideal for use in analytical and diagnostic purposes:

"Consequently, (jellyfish) GFP mutants have been selected with the hope of **identifying mutants** that have *single excitation spectral peaks* shifted to the red (emphasis provided). In fact a stated purpose in constructing such mutants has been to attempt to make *A. Victoria* GFP more like the GFP from *Renilla*, which has thus far not been cloned, but which has properties that make it far more ideal for use as an analytical tool. For many practical applications, the spectrum of *Renilla* GFP would be preferable to that of the *Aequorea* GFP, because *wavelength discrimination* between different fluorophores and detection of resonance energy transfer are easier if the component spectra are tall and narrow rather than low and broad". (emphasis provided)

See '107 col. 3-5; col. 47-48.

Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to utilize the Bryan et al. polynucleotide *Renilla* green fluorescent protein (including seq. Id 15) in the Zolutukhin reference genetic constructs since:

a. BOTH Zolutukin and Bryan et al. teach the preferential use of *Renilla* GFP thus motivating the selection of the Bryan *Renilla* GFP obvious to one of ordinary skill in the art; and/or

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b. one of ordinary skill in the art would have been motivated to select the Bryan reference Renilla sequences for purposes of performing screening assays (e.g. high throughput library screens) in order to obtain the benefits of the renilla protein in such assays as taught by the Bryan reference.

### ***Discussion***

Applicants arguments directed to the above obviousness rejections over the Aran et al. , Bryan et al. and Zolutukhin reference references were considered but deemed nonpersuasive for the following reasons. Initially, it is noted that the above rejections were modified.

In a nutshell, Applicant argues that the prior art of record establishes that wild-type Aequoria GFP could not be expressed in a mammalian cell using a retroviral vector; engendering a lack of a reasonable expectation of success regarding the similar expression of wild-type Renilla GFP.

Initially, previous arguments already of record traversing applicant's arguments are hereby incorporated by reference in their entirety.

To the extent that claims 1-3 by use of intended usage (e.g. for use in mammalian cell) encompass non-mamalian hosts, applicants argument is not germane.

To the extent that applicant's claims encompass mammalian hosts, applicant's argument is nevertheless nonpersuasive for the following reasons.

Both the Bryan et al. and Zolutukhin reference references teach the most preferred status of Renilla GFP as compared to Aequoria GFP as a reporter protein. Particularly, *Aequorea* GFP possess two separate excitation peaks, whereas *Renilla*

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GFP has one excitation peak making it not ideal for use in analytical and diagnostic purposes:

"Consequently, (jellyfish) GFP mutants have been selected with the hope of **identifying mutants** that have *single excitation spectral peaks* shifted to the red (emphasis provided). In fact a stated **purpose in constructing such mutants has been to attempt to make A. Victoria GFP more like the GFP from Renilla**, which has thus far not been cloned, but which has properties that make it far more ideal for use as an analytical tool. For many practical applications, the spectrum of Renilla GFP would be preferable to that of the Aequorea GFP, because *wavelength discrimination* between different fluorophores and detection of resonance energy transfer are easier if the component spectra are tall and narrow rather than low and broad". (emphasis provided)

See Bryan '107 at col. 3-5; col. 47-48; see also See Zolutukhin at col. 16 discussed above.

Accordingly, wild-type *Aequorea* GFP, undesirably possessing two spectral peaks, must be mutated to mimic wild-type Renilla which already desirably possesses a single excitation peak. Accordingly, unlike *Aequorea* GFP there is no need to mutate wild-type Renilla. Thus, BOTH the Bryan and Zolutukhin references recognized the problem in the art with regard to wild-type *Aequorea* GFP (e.g. two peaks) and opted to optimally select wild-type Renilla (e.g. one peak) instead.

Accordingly, utilizing a wild-type Renilla instead of a less preferred *Aequorea* and further human-codon optimizing to increase expression engenders more than a reasonable expectation of success in utilizing a wild-type Renilla GFP expression in a mammalian cell using a retroviral vector. It is noted that absolute certainty is not the legal test for obviousness.

Accordingly, the above rejections are hereby maintained.

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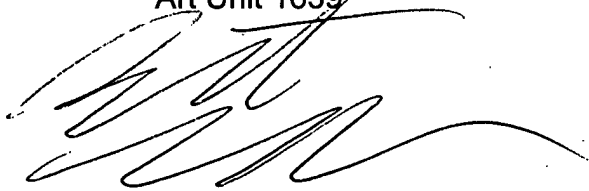
***Future Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bennett Celsa whose telephone number is 571-272-0807. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Bennett Celsa  
Primary Examiner  
Art Unit 1639

A handwritten signature in black ink, appearing to be 'Bennett Celsa', written over the printed name and title.

BC  
February 9, 2005